NOTES: UNLESS OTHERWISE SPECIFIED

01. EXTERNAL TOOLING HOLE DIMENSIONS.

02. MINIMUM ANNULAR RING .001. ~~EXCEPT BREAK OUT PERMITTED ON TRIMMED PADS.~~

~~03. MAX. INTERNAL RADII ______ MAX. EXTERNAL RADIUS .063.~~

04. NO DEBURR REQUIRED.

05. CRAZING AND DELAMINATION WITHIN A MAX. OF .030 BOARD PERIMETER SHALL BE ACCEPTABLE.

~~06. HOLE LOCATION ⊕ A B .014 Ⓢ (RFS) OR ⊕ A B .010 Ⓜ (MMC).~~

07. ALL HOLES NOT DIMENSIONED ARE ON .025 INCH GRID INCREMENTS IN RELATION TO DATUM 0.

08. DECIMAL HOLE DIAMETERS AND HOLE TOLERANCES GOVERN HOLE SIZE. ~~NUMBERS IN PARENTHESIS ARE FOR REFERENCE ONLY.~~

09. FINISHED ARTWORK CONDUCTOR WIDTH AND SPACING TO BE AS SHOWN ON MASTER PATTERN ± .004.

10. BOARD WARP OR TWIST SHALL NOT EXCEED .020 INCH PER INCH LENGTHWISE AND SHALL NOT EXCEED .018 INCH PER INCH CROSSWISE.

11. NO CLEARANCE REQUIRED FROM CONDUCTOR TO EDGE OF BOARD AND SLOTS.

12. MATERIAL SHALL BE 1mm THK NEMA GRADE FR-4 OR G-10 WITH ONE OZ. COPPER EACH SIDE.

~~13. PROCESSES: TIN LEAD 60/40 PLATE, .0003 THK MIN, PER QQ-S-571 "REFLOWED" BEFORE SOLDER MASK IS APPLIED.~~

14. SOLDER MASK SHALL BE SCREENED ON BOTH SIDES USING PC 401 OR APPROVED EQUIVALENT. COLOR TO BE GREEN.

~~15. SOLDER MASK IS PERMITTED TO BLEED ON PADS OF CONDUCTOR SIDE WHERE PADS ARE TRIMMED AND ON COMPONENT SIDE OF BOARD.~~

~~16. MARK PER ANSI Y32.16-1968, METHOD SILK SCREEN, HEIGHT PER ARTWORK PROVIDED, COLOR CONTRASTING (F100, METHOD 1, CLASS 1).~~

~~17. REGISTRATION MARKS TO BE USED FOR POSITIONING MARKING AT HOLES SHOWN.~~

~~18. THIS PWB IS AN UL RECOGNIZED COMPONENT AND, SUCH AS, MUST DISPLAY THE VENDORS MARK RECOGNIZED BY UL IN THE AREA OF THE PWB INDICATED.~~

19. SOLDER MASK ALLOWED TO BLEED A MAX. OF .005 ONTO THE PAD.

20. NO ANNULAR RING REQUIREMENTS ON OVAL PADS.

~~21. SOLDER MASK PERMITTED TO COVER TIN-LEAD-PLATED COPPER AREAS GREATER THAN .250 INCH.~~

22. ALL HOLES TO BE WITHIN .014 INCH TRUE POSITION TO DATUM "Z" WHEN PINNED TO PLANE -A- AND PLANE -B-.

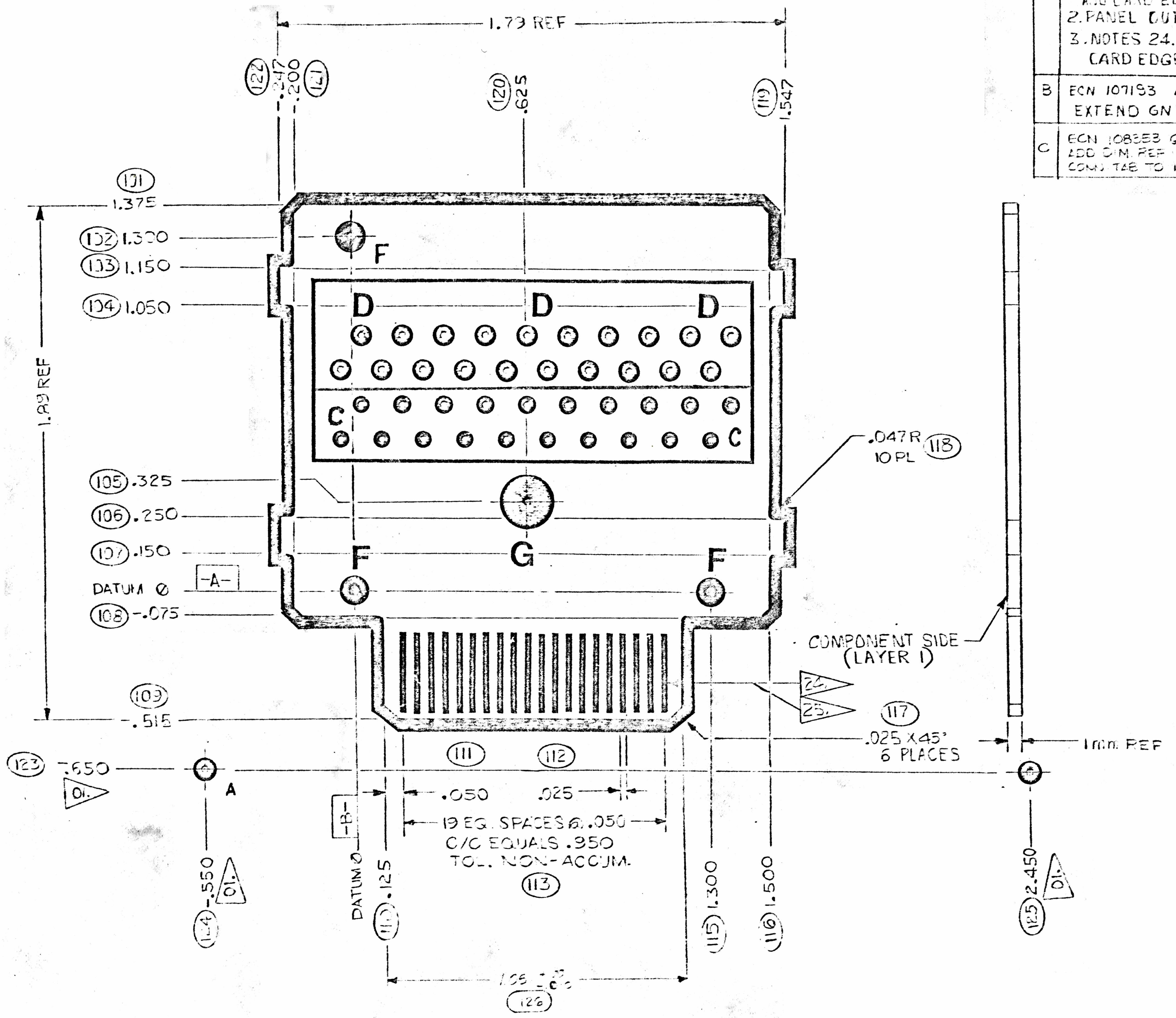
23. ASSEMBLY NUMBER NOT REQUIRED ON THIS BOARD.

24. ELECTROLESS NICKEL PLATE PER CL.1, CLASS B (F-38, METHOD 2) THICKNESS TO BE .0003 MIN. OF ELECTROPLATE A LOW STRESS NICKEL .0002 MIN. THK. FREE FROM VISIBLE BLISTERS, PITS, NODULES, CRACKS OR OTHER DEFECTS. IPC TAPE TEST SHOWS NO SEPARATION OF NICKEL FROM COPPER, NO COHESIVE FAILURE OR NO SEPARATION OF SUBSEQUENT TOP COAT.

25. ELECTROPLATE GOLD PER MIL-G-45204, CL. II OR F-34, CL.2. .000015 MIN. THK. MIN. GOLD PLATING THICKNESS ON FINISHED PCB. .000005 GOLD SHALL BE ADHERENT (IPC TAPE TEST) HAVE UNIFORM COVERAGE AND GOLD COLOR WITH NO EVIDENCE OF POROSITY.

REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED
	A	ECN NO: 105897 [signature] 3-25-83 1. BOARD OUTLINE IS CHANGED, AND CARD EDGE IS EXTENDED. 2. PANEL OUTLINE IS CHANGED. 3. NOTES 24. AND 25. USE FOR CARD EDGE FINGERS ONLY.	3/28/83	[signature]
	B	ECN 107193 Wolfgang [signature] 5-27-83 EXTEND GND TO TO TOP EDGE	5/27/83	[signature]
	C	ECN 108353 [signature] 9/22/83 ADD DIM. REF 126 AND CHG. DIM ON CONN TAB TO 1.05	9/22/83 9-26-83	[signature]



HOLE SCHEDULE

LTR	FINISHED HOLE DIA UNSUPPORTED +.004 -.001	FINISHED HOLE DIA PLATED THRU +.007 -.003	REMARKS
G	.200 +.004 -.002		
F		.062 +.006 -.002	INTL TOOLING
~~E~~		~~.046 +.006 -.002~~	
D		.039 +.006 -.002	
C		.039	
~~B~~		~~.125 +.006 -.002~~	~~INTL TOOLING~~
A	SHOP OPTION	SHOP OPTION	EXTL TOOLING

SAME AS D HOLES. 20

REVISION LEVEL CONTROL

INVENTORY CONTROL NUMBER	-	-1	-2	-2
THIS DRAWING	-	A	B	C
HOLE CONFIGURATION	-	A	A	A
~~DRILL DECK~~				
LAYER 1 (COMP. SIDE)	-	A	B	B
LAYER 2 (COND. SIDE)	-	A	A	A
~~MARKING~~				
CONDUCTOR SIDE SOLDER MASK	-	A	A	A
COMPONENT SIDE SOLDER MASK	-	A	B	B

BOARD TYPE: II

DIMENSION IDENTIFIERS	
LAST USED	NOT USED
101 – 126	

477

NEXT ASSY | PRODUCT

APPLICATION

UNLESS OTHERWISE SPECIFIED
- DIMENSIONS ARE IN INCHES
- TOLERANCES
  ~~ANGLES ±~~
  3 PLACE DECIMALS ± .010
  2 PLACE DECIMALS ± .02
- DIMENSIONING IN ACCORDANCE WITH ANSI Y14.5

MATERIAL 12

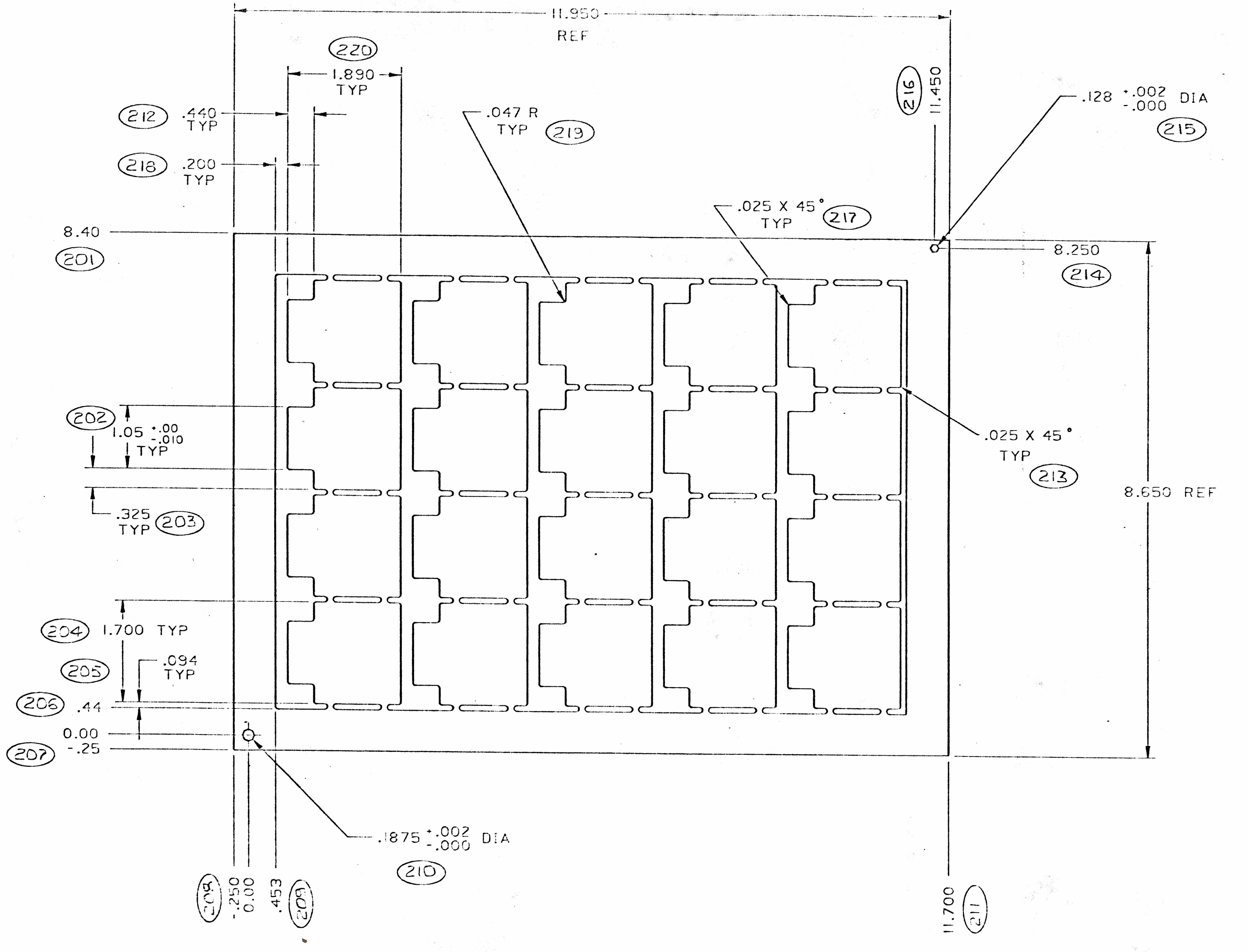
DWN [signature] DATE 1-17-83
CHK [signature] 1-22-83
ELECT ENG [signature] 2-1-83
TOOLING ENG [signature] 2-21-83
MFG ENG
PRODUCT ENG
DESIGN ACTIVITY RELEASE [signature]

TEXAS INSTRUMENTS INCORPORATED
CALCULATOR PRODUCTS DIVISION

PRINTED WIRING BOARD, PRODUCT 477

SUP DWG MP | SIZE D | DRAWING NO MP105562-4

SCALE NONE | REV LTR C | SHEET 2



DIMENSION IDENTIFICATION NUMBERS	
USED	NOT USED
201 - 220	

THIS IS A COMPUTER GENERATED ORIGINAL
DO NOT REVISE MANUALLY

TEXAS INSTRUMENTS

3-25-83

D

DRAWING NO. 1055624

REV C

SCALE NONE

SHEET 2 OF 2